

**REMARKS**

Claims 13 through 36 are pending in this Application. The specification and claims 13, 14, 24 through 28, 35, and 36 have been amended. Care has been exercised to avoid the introduction of new matter. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, original claim 24, and Steps 805-807 in FIG. 8, ¶¶ [0046] through [0057], [0061], and [0062] of the corresponding US Pub. No. 2005/0102301 Applicants submit that the present Amendment does not generate any new matter issue.

**Objection to the Specification**

The Examiner asserted a lack of sufficient antecedent basis in the specification for the expression "computer-readable medium." This objection is traversed.

Literal support is not required by the statute. *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 923 (Fed.Cir.2004); *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1566-67 (Fed.Cir.1997). An applicant need not utilize any particular form of disclosure to describe the subject matter claimed; the description need only allow persons of ordinary skill in the art to recognize that he or she invented what is claimed. *Carnegie Mellon Univ. v. Hoffmann-La Roche Inc.*, 541 F.3d 1115, 1122 (Fed.Cir.2008) (quoting *In re Alton*, 76 F.3d 1168, 1172 (Fed.Cir.1996)).

In applying the above legal tenets to the exigencies of this case, Applicants submit that the imposed objection is not factually accurate. Specifically, the recitation "computer-readable medium" is fully supported by at least "a computer-readable program product" recited in the originally filed claim 24.

Applicants respectfully submit that one of ordinary skill in the art with the disclosure of the specification would have understood that “a computer-readable program product” is inherently embodied on a medium, such as a computer-readable medium. Therefore, an explicit definition of the term "computer-readable medium" is unnecessary in view of such knowledge possessed by one of ordinary skill in the art. Therefore, an explicit definition of the term "computer-readable medium" is unnecessary in view of such knowledge possessed by one of ordinary skill in the art.

At any rate, the specification has been amended to provide literal support for the recited “computer-readable medium”, adequate support for which is in original claim 24, which is part of the originally-filed disclosure..

Applicants respectfully request withdrawal of the objection of the specification .

**Claims 13 through 25 were rejected under 35 U.S.C. §101 as being allegedly directed to non-statutory subject matter.**

In stating the rejection, the examiner asserted that claim 13 recites a method without being tied to a particular machine or apparatus, claim 24 recites statutory subject matter directed to a computer-readable program product that is not supported by the specification, and claim 25 recites apparatus that is not inherently directed towards a machine or article or manufacture. This rejection is traversed.

In order to expedite prosecution, method claim 13 has been clarified by reciting an apparatus which executes the steps of the method, thereby overcoming the stated basis for the rejection of claim 13.

Applicants respectfully submit that claim 24 recites statutory subject matter directed to a computer-readable program product comprising a computer program code embodied on a computer-readable medium. As discussed above, one of ordinary skill in the art with the disclosure of the specification would have understood that a computer-readable program product is inherently embodied on a medium, such as a computer-readable medium, which is now recited in the specification. Furthermore, MPEP §2106.01 explains that functional descriptive material, such as computer programs, that are recorded on some computer-readable medium becomes structurally and functionally interrelated to the medium and will be statutory in most cases since the use of the technology permits the function of the descriptive material to be realized. *See In re Lowry*, 32. F.3d 1579, 1583-84, 32 USPQ 2d 1031, 1035 (Fed. Cir. 1994). Therefore, contrary to the examiner's conclusions, claim 24 is directed to statutory subject matter.

Applicants respectfully submit that claim 25 recites statutory subject matter directed to a means-plus-function apparatus. Under MPEP 2016 II (c), where means plus function language is used to define the characteristics of a machine or manufacture invention, such language must be interpreted to read on only the structures or materials disclosed in the specification and "equivalents thereof" that correspond to the recited function. Two *en banc* decisions of the Federal Circuit have made clear that the USPTO is to interpret means plus function language according to 35 U.S.C. § 112, sixth paragraph. *In re Donaldson*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994) (*en banc*); *In re Alappat*, 33 F.3d 1526, 1540, 31 USPQ2d 1545, 1554 (Fed. Cir. 1994) (*en banc*). Therefore, contrary to the examiner's conclusions, claim 25 is directed to statutory subject matter.

Applicants therefore submit that the imposed rejection of claims 13, 24 and 25 under 35 U.S.C. §101 is not legally viable and solicit withdrawal thereof.

**Claims 13 through 20 and 24 through 26 were rejected under 35 U.S.C. §102(e) as being anticipated by *Sirosh* (US 6,226,408).**

In stating the rejection, the Examiner asserted that *Sirosh* discloses all elements of the claimed inventions. Applicants respectfully traverse this rejection.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the identical disclosure in a single reference of each element of a claimed invention, as those elements are set forth in the claims, such that the claimed invention is placed into the recognized possession of one having ordinary skill in the art. *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1308, (Fed. Cir. 2008); *Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358 (Fed. Cir. 2003); *Crown Operations International Ltd. v. Solutia Inc.*, 289 F.3d 1367 (Fed. Cir. 2002); *Candt Tech Ltd. v. Resco Metal & Plastics Corp.*, 264 F.3d 1344 (Fed. Cir. 2001). Moreover, when imposing a rejection under 35 U.S.C. § 102 for lack of novelty, the Examiner is required to specifically identify where in the applied reference disclosed each and every feature of the claimed invention, particularly when such is not apparent as in the present case. *In re Rijckaert*, 9 F.3d 1531 (Fed. Cir. 1993); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452 (Fed. Cir. 1984). That burden has not been discharged. Indeed, there are fundamental differences between the claimed inventions and *Sirosh* that scotch the factual determination that *Sirosh* disclose, or even remotely suggests, any of the claimed inventions.

Specifically, independent claims 13, 14 and 24 through 26 recite “performing a first iterative process **with iterations each including determining a winner weight vector for each data point and then** updating **each of** the weight vectors **with a corresponding first coefficient updated in a second iterative process** such that the weight vectors move toward the cluster centers; performing the second iterative process **with iterations each including** updating **said**

**corresponding first coefficient in** a second data structure by utilizing **the winner weight vector determined in the first iterative process**” that undermine the prior art rejection. This feature is not disclosed or suggested by *Sirosh*. That difference alone is sufficient to destroy the rejection for lack of novelty under 35 U.S.C. § 102.

In the first paragraph on page 17 of the Office Action, the Examiner responded to Applicants previously advanced argument that that *Sirosh* discloses and repeats only a single iterative process, by asserting that “even though *Sirosh* executes the first process and then the second process and then repeats the processing of the first and second process, this is considered to meet the requirement of the claim limitations when the limitations are given the broadest reasonable interpretation reasonable to one of ordinary skill in the art.”

To clarify the claimed invention, independent claims recite that the first and second iterative processes interleave with each other by using the parameters updated in the other process. This feature is not disclosed or suggested by *Sirosh*. This difference alone is sufficient to undermine the rejection for lack of novelty under 35 U.S.C. § 102.

*Sirosh* operates three sub-processes in each layer/process, and feeds outputs from one layer/process into the next layer/process executing the same three sub-processes, in order to reduce the number of cluster centers in the next layer/process (e.g., in half) (Abstract; col. 2, lines 6-59). The three sub-processes include a vector quantization process 104, a weighted topology representing graph process 106 (which arguably corresponding to a SOM creating process, a.k.a., a SOM training process), and an encoding process 108. The examiner corresponded the first layer and the second layer to the first and second iterative processes of the claimed inventions. The examiner argued that although the first and second layers are the same iterative processes occurring in sequence, each of them respectively discloses the first iterative

process and the second iterative process. The examiner further argued that since the claims do not specify when the iterative processes are performed, the first and second layers meet the claim limitations.

Applicants contend that *Sirosh* fails to disclose or suggest that the first and second iterative processes interleave with each other in any manner, let alone that the first and second iterative processes interleave with each other by using the parameters updated in the other process. In particular, *Sirosh* does not “perform a first iterative process **with iterations each including determining a winner weight vector for each data point and then updating each of the weight vectors with a corresponding first coefficient updated in a second iterative process** such that the weight vectors move toward the cluster centers; and perform the second iterative process **with iterations each including updating said corresponding first coefficient in a second data structure by utilizing the winner weight vector determined in the first iterative process**” as recited in the claimed inventions

In other words, *Sirosh* fails to mention performing a first iterative process and a second iterative process as disclosed in claim 13, and similarly recited in claims 24-26. Rather, *Sirosh* merely discloses a single iterative process which is repeated without intervening steps of the next process as described in column 4, lines 57 to column 5, lines 31.

Claims 14 through 23 depend from claim 13 and, hence, are allowable for at least their dependency upon an allowable base claim, and merit separate consideration based upon the specific limitations recited therein.

The above-argued fundamental and functionally significant differences between the claimed inventions and *Sirosh* undermine the factual determination that *Sirosh* *identically* discloses the same inventions as required under 35 U.S.C. §102(e). *Minnesota Mining &*

*Manufacturing Co. v. Johnson & Johnson Orthopaedics Inc.*, 976 F.2d 1559 (Fed. Cir. 1992); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565 (Fed. Cir. 1986). Applicants, therefore, submit that the imposed rejection of claims 13 through 20 and 24 through 26 under 35 U.S.C. §102(e) for lack of novelty based on *Sirosh* is not factually viable, and hence, solicit withdrawal thereof.

**Claims 21 through 23 and 34 through 36 were reejected under 35 U.S.C. §103(a) as being unpatentable over *Sirosh*, as applied to claim 14, and further in view of *Guiver et al.* (US 5,809,490).**

This rejection is traversed. Specifically, claims 21 through 23 depend from independent claim 13, and claims 34 through 36 depend from independent claim 26, Applicants incorporate herein the arguments previously advanced in traversing the imposed rejection of claims 13 and 26 under 35 U.S.C. §102 for lack of novelty as evidenced by *Sirosh*. The secondary reference to *Guiver et al.* does not cure the previously argued deficiencies of *Sirosh*. Accordingly, even if the applied references are combined as proposed by the Examiner, and Applicants do not agree that the requisite basis to support the asserted motivation has been established, the claimed invention would not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, *supra*. Applicants, therefore, submit that the imposed rejection of claims 21 through 23 and 34 through 36 under 35 U.S.C. §103 for obviousness predicated upon *Sirosh* in view of *Guiver et al.* is not factually or legally viable and, hence, solicit withdrawal thereof.

Based upon the foregoing, it is apparent that the imposed objection and rejections have been overcome, and that all pending claims are in condition for allowance. Favorable

consideration is therefore solicited. If any unresolved issues remain, it is respectfully requested that the Examiner telephone the undersigned attorney at 703-519-9954 so that such issues may be resolved as expeditiously as possible.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 504213 and please credit any excess fees to such deposit account.

Respectfully Submitted,

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